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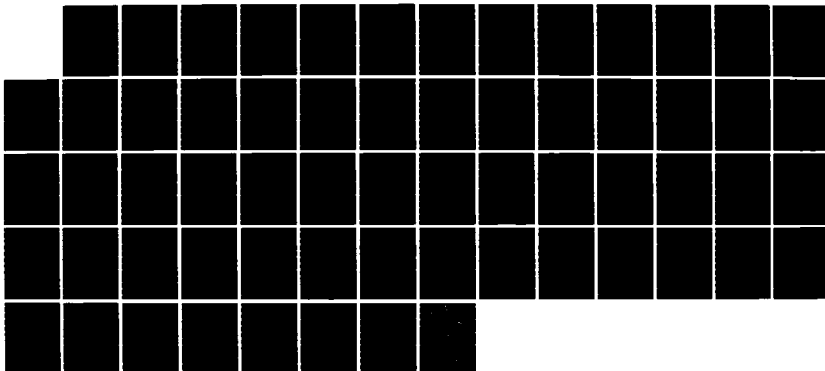
SOVIET NAVAL AVIATION: ITS CHANGING ROLES(U) DEFENSE
INTELLIGENCE COLL WASHINGTON DC M L MOSIER 03 JAN 86

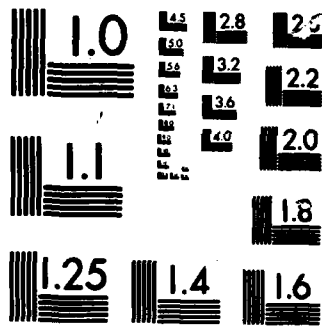
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ABSTRACT

Title of Thesis: Soviet Naval Aviation: Its Changing Roles

Melvin L. Mosier III, Master of Science in Strategic Intelligence, November 1985

Thesis Committee Chairman: Bruce Watson, Commander, USN

Soviet Naval Aviation will no doubt play a major role in the Soviet Navy's war and peacetime missions. Over the years, it has become a large and effective force with a global reach. As a result, the roles and missions of Soviet Naval Aviation appear to be changing as it becomes more powerful. The more dramatic changes are taking place in sea based aviation; the result being the current construction of a large conventional carrier. The roles of land based naval aviation are also changing, but to a lesser degree. This thesis will examine these changes and discuss their effects and implications.

As with most Soviet military topics, in order to analyze Soviet Naval Aviation in today's world, its historical aspects must be considered. Soviet military theorists and planners have a great propensity for reviewing events from the Great Patriotic War (World War II). For this reason, chapter one presents an overview of Soviet Naval Aviation (SNA) during the war years, with attention to the events and roles within each of the four fleets. Additionally, also the developments during the latter years of the Stalin era will be described. Finally, chapter one will

Cont'd

also focus on SNA's anti-carrier role; the anti-Polaris/Poseiden role; and other recent developments.

Chapter two discusses the background and evolution of the change in naval doctrine which culminated in the construction of the new carrier. Evolution and changes in military doctrine are considered as the rationale for these changes, including command of the sea and fleet defense. Chapter two concludes with discussions of the characteristics of the new carrier and its applications.

Land-based aviation, which has traditionally been emphasized over sea based aviation, will be discussed in chapter three beginning with an overview of the advantages of land based aviation as compared to sea based aviation. ^{also} Additionally, this chapter will discuss the missions of land based aviation to include a brief description of the various types and models of aircraft, their primary missions, and their distribution.

The conclusion of this thesis will be presented in chapter four.

SOVIET NAVAL AVIATION: ITS CHANGING ROLES

by

Melvin L. Mosier III

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CONTENTS

Chapter	Page
Tables	iii
Introduction	iv
I. Soviet Naval Aviation Since The Great Patriotic War	1
II. Sea Based Aviation: A New Carrier	17
III. Land Based Aviation	34
IV. Conclusions	47
Bibliography	49

TABLES

Table	Page
1. LBA Distribution of Major Aircraft by Model	43
2. Distribution of all SNA by Type	44
3. Total LBA Inventory by Mission and Type	44

INTRODUCTION

Soviet Naval Aviation will no doubt play a major role in the Soviet Navy's war and peacetime missions. Over the years, it has become a large and effective force with a global reach. As a result, the roles and missions of Soviet Naval Aviation appear to be changing as it becomes more powerful. The more dramatic changes are taking place in sea based aviation; the result being the current construction of a large conventional carrier. The roles of land based naval aviation are also changing, but to a lesser degree. This thesis will examine these changes and discuss their effects and implications.

As with most Soviet military topics, in order to analyze Soviet Naval Aviation in today's world, its historical aspects must be considered. Soviet military theorists and planners have a great propensity for reviewing events from the Great Patriotic War (World War II). For this reason, chapter one presents an overview of Soviet Naval Aviation (SNA) during the war years, with attention to the events and roles within each of the four fleets. Additionally, the developments during the latter years of the Stalin era will be described. Finally, chapter one will also focus on SNA's anti-carrier role; the anti-Polaris/Poseiden role; and other recent developments.

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The conclusion of this thesis will be presented in chapter four.

CHAPTER I

SOVIET NAVAL AVIATION SINCE WORLD WAR II

As with most Soviet military topics, in order to analyze Soviet Naval Aviation, one must consider its historical aspects. Soviet military theorists and planners have a great propensity for reviewing events from World War II. For that reason, this chapter begins with a brief overview of Soviet Naval Aviation (SNA) during the war years, including discussions of events and roles within each of the four fleets (the Northern, Baltic, Black, and Pacific).

THE GREAT PATRIOTIC WAR

At dawn on 22 June 1941, when Germany attacked the Soviet Union, the naval aviation branch of the Soviet Navy had about 2,580 airplanes in its inventory.¹ Most were assigned to the four major fleets, and included DB-3 and DB-3F torpedo bombers, the SB and TB-3 bombers, the I-15 Bis, I-16, I-153, Yak-1, and Mig-3 fighters.² Although the air arm was relatively large, up to 90% of the aircraft were obsolete and inferior to the German Luftwaffe.³

The German invasion of Soviet territory forced all Soviet forces into a defensive role. At the outset of the war, SNA was principally used against ground targets, in support of Soviet troops or to interdict of enemy lines of communication (LOCs).⁴ Later in the war, however SNA made a

more impressive showing when, unlike the other elements of the navy, it went on the offensive. It proved to be flexible, effective and cost-efficient, culminating in an impressive sinking rate against enemy supply convoys.⁵

NORTHERN FLEET

Northern Fleet naval aviation was the youngest of the fleet aviation units.⁶ It consisted of two air regiments and a separate squadron, but had a limited number of assets -- only 116 planes as of June 1941.⁷ As most of these were obsolete fighters and bombers, there were no mine-torpedo aircraft at all.⁸ Additionally, the Northern Fleet was the last to receive modern aircraft during the war.

Northern Fleet aviation was used in ground support operations against the Nazi offensive at Murmansk until the front was stabilized. Afterward, it played a key role in air defense of the surrounding naval bases and an ineffective role protecting allied convoys from the enemy.⁹

This deficiency was due to many problems. The Navy lacked the resources, advanced aircraft, and experienced personnel. Geographic conditions, such as isolation, climate, and vastness of the area of interest also hampered its effectiveness.¹⁰

Protection of allied convoys from German attacks dictated that resources had to be committed to the Northern

Fleet.¹¹ The strength of Northern Fleet aviation increased significantly between 1941 and 1942. By January, 1942 the Northern Fleet had received SB aircraft from the Baltic fleet and a regiment of Hurricane fighters from Lend Lease assistance. They also acquired a regiment of Pe-3 frontal bombers and some torpedo aircraft.

The increase in the quantity and quality of planes allowed the Soviets to intensify their offensive operations, particularly against German sea lanes. The Northern Fleet began systematic attacks against convoys and transports at sea. Attack planes and fighters operated principally in the area of Varangersford, while the bombers and torpedo platforms operated as far west as Cape Nordkinn. Enemy airfields of Luestari, Kirkenes and Banak were often attacked.¹²

Naval aviation in the Northern Fleet remained technologically inferior to the Germans throughout the war. Although it participated in combined-arms operations, it was generally ineffective when compared to the other fleets.

BALTIC FLEET

As the Soviets went on the defensive early in the war, they retreated from the Baltic republics and the Soviet Navy was restricted to the Kronstadt-Leningrad region from August 1941 to late 1942. The Baltic Fleet aviation during this period of defensive battles, supported ground troops by attacking enemy ground forces. Bombers and attack aircraft

frequently had to operate without fighter escort or cover when breaking through to designated targets. The air arm also supported the defense of Leningrad in cooperation with frontal aviation and flew 8,000 sorties to cover the lifeline to the city.¹³

When the Soviets began offensive operations on the Leningrad and Volkhov fronts in 1944, naval aviation committed more and more assets to ground support missions as the Soviets gained momentum.¹⁴

Additionally, from the Spring of 1944, Baltic Fleet Aviation conducted operations against German sea lanes in the Gulf of Riga and the Gulf of Bothnia. It also performed operations in the northern and middle areas of the Baltic Sea, but it was not till late 1944 that the Baltic Fleet started intensive sea-denial and interdiction missions. This responsibility was assigned to naval aviation in cooperation with submarines and motorized torpedo boats (MTB).¹⁵

By the end of the war, the Soviets enjoyed a substantial numerical advantage in air assets over the Germans. This, combined with an almost total lack of German air cover, allowed the Soviets to hold command of the air for the last eight months of the war.¹⁶

BLACK SEA FLEET

The Black Sea Fleet's naval air arm was a formidable

opponent for the Germans. Seven major airfields with a total of 673 aircraft made it a major threat to the German southern flank. Assets consisted of two air brigades, two separate air regiments, 13 separate squadrons, and two air detachments.¹⁷

In the first months of the war, Black Sea Fleet Aviation attacked oil fields, ports, and enemy sea lanes. The fall of Sevastopol, however, allowed the Germans to gain air superiority and command of the sea around the Crimea. The effectiveness of SNA in its attacks upon German sea lanes was greatly reduced by the loss of the Crimea. In the second half of 1942, navy pilots destroyed only 53 warships, transports, and light aircraft.

After the victory at Stalingrad, the Soviets organized a counteroffensive to "liberate the Crimea" and carry the war to Romania. The attack aviation of the Black Sea Fleet operated coordinated mass attacks chiefly on the sea lanes between Sevastopol and ports in Romania. The intention was to destroy enemy convoys with several combined strikes by conventional bombers cooperating with torpedo bombers and ground-attack planes under the cover of fighters.¹⁹

The Black Sea Fleet was most effective in using its air arm against the Germans. They demonstrated an ability to perform combined arms operations in support of amphibious assaults and interdicting German sea lanes, without the benefit of surface counters in a supporting role in the latter.

PACIFIC FLEET

Although the Soviets fought the Japanese in a very short and limited conflict in 1939, they did not fight Japan in World War II until August 1945, and then only for two weeks. The Pacific Fleet was quite strong and well trained by the start of the conflict against Japan. Naval aviation was the strongest element in the Pacific Fleet. It had a fighting strength of six air divisions (torpedo, bomber, two mixed, and two fighter), ten separate air regiments and fourteen squadrons totaling around 1500 aircraft. When combined with the Northern Pacific Flotilla, the Soviets had 1,790 aircraft to use against the Japanese. These were the newest and most advanced aircraft in the Soviet naval inventory. Those that were not built indigenously were provided thru Lend Lease and included Yak-9s, Yak-76s, La-7s, Tu-2s, Pe-2s, Il-4s, AIRCOBRAs, BOSTONs, and CATALINAs.²⁰

The combat effectiveness and capabilities of the Pacific Fleet Aviation was enhanced by the level of experience of the aviators and ground crews in 1945. Over sixty percent of the pilots involved in air operations against Japan had previous combat experience against Germany. Cooperation between aviation, surface ships, and submarines to inflict combined attacks against enemy naval forces was practiced during exercises before the

Pacific conflict began. Thus, unlike the other fleets during the war, the Pacific Fleet had an equipped, trained, and experienced air arm.

The Soviets employed naval power in combined-arms operations. The main missions of aviation were to support ground troops and amphibious operations.²² Bombing and strafing operations were also performed against Japanese occupied ports of Rasin and Seisen with the intention of disrupting Japanese sea communications.

By the end of the brief conflict, the statistics of the Pacific Fleet's naval aviation were impressive. Naval Aviators logged 4,724 missions, destroying 15 warships and transports, along with countless artillery batteries and trains.²³

THE STALIN ERA 1945-1953

The lessons from World War II would have great influence on the Soviet Navy. The most important was the rising importance of naval aviation and submarines. These two "were the main means of armed conflict in naval theatres..." Large surface ships, considered before the war to be the mainstay of our fleet, lost their leading role in solving tasks placed before the navy.²⁴

SNA, according to RADM K.A. Stalbo, accounted for 72.5 percent of all German shipping sunk by Soviet forces.²⁵ Aviation proved itself to be a cost-efficient and flexible element of the Soviet Navy. Its ability to handle different

types of missions with relatively high speed made naval aviation seem not only capable, but indispensable.

Following the war, concepts of maritime strategy were defensive. The Soviet Navy opted to secure the four fleet areas by building a fortress fleet of heavy cruisers, destroyers, light surface craft, submarines and land-based aviation. Robert Herrick claims that by 1950, Stalin planned to build a balanced fleet, to include several carriers, one for each fleet. Observers disagree as to whether or not the evidence is conclusive, regardless, Stalin's initial building program did not include carriers.²⁶ Stalin died in 1953, leaving to question whether he would have eventually provided the element that the Soviet Navy lacked--sea-based aviation.

ANTI-CARRIER ROLE, 1953-1963

With Khrushchev's rise to power came a strategic reorientation. The Soviets realized the utility of a navy as a worldwide force in both political and military terms, especially in the Third World. The shipbuilding programs organized in the Stalin years were halted and the Soviets began to create a new navy that would be able to gain influence in the third world.²⁷

When Admiral Gorshkov was appointed Commander in Chief of the Soviet Navy in 1956, the Party also provided funds to transform the Soviet Navy into a worldwide force in terms of

ships and missions. By that time, naval aviation had grown to about 90,000 personnel and 4,000 aircraft.²⁸ Emphasis was still placed on fighters to provide air cover to ships and to protect the Soviet Union from amphibious assaults. The Navy still lacked aircraft capable of long-range missions and a sea-based aviation element. Thus, naval aviation operations would be limited to the combat radii of its aircraft, confining operations to coastal waters.

In the early 1960s, SNA transferred between 1,500 to 2,000 fighter aircraft and its personnel to Frontal Aviation as part of Khrushchev's reduction and reorganization of the Soviet military forces. Naval Aviation was left with about 800 aircraft, 20 percent of its previous assets.²⁹ Consequently, naval aviation became a medium-bomber strike and reconnaissance force with a coastal anti-submarine warfare (ASW) capability. In the intervening years, naval aviation emphasized, developed, and extended its maritime strike, reconnaissance, and ASW abilities.

Naval Aviation is presently experiencing a period of rejuvenation that started in the mid-1960s and still continues. Under Admiral Gorshkov and General-Colonel Borzov, then Chief of Naval Aviation, important changes were made in aircraft and armament which would increase operating range and striking power.³⁰ Intermediate range aircraft were transferred to naval aviation from Long Range Aviation. Included in these assets were Tu-16 BADGERS, some of which were modified as tankers for in-flight refueling, thereby

extending the combat ranges of other aircraft. Also, the Tu-95 BEAR D long-range reconnaissance aircraft was incorporated in naval aviation.

Several factors generated the push for a stronger naval aviation arm. The Soviets realized the need for the capability to strike U.S. nuclear-capable carriers, positioned well beyond coastal waters. Qualitative advances in aircraft design, capabilities, electronics, and armaments including anti-ship stand-off missiles, made a strong land-based aviation a logical alternative to expensive carriers. This provided a partial answer to national defense problems. As General-Colonel S.A. Gulayyev noted in 1965:

Aircraft with extended range and speed capabilities can quickly strike enemy forces at sea. Aviation units and forces can be readily transferred from one area to another. For example, large groups of aircraft can be redeployed from one continent to another in less than a day, without any loss in combat effectiveness.³¹

It is clear that naval aviation would assume a major role in the next conflict involving naval power.

ANTI-POLARIS/POSEIDON ROLE, 1963-1980

U.S. Polaris SSBNs went to sea in the early 1960s. Although the Soviets still considered anticarrier warfare critical, top priority passed to ASW. As Marshal Sokolovskiy stated, "The most important task of the Soviet Navy is the destruction of Polaris submarines."³²

Soviet ASW capabilities, at the time, were inferior to those of Western military forces. The main Soviet ASW

airborne platform was the BE-6 MADGE which was slow, short-ranged, and incapable of coping with U.S. SSBNs. Limited by a 500-nautical mile combat radius and lacking forward basing, it could not reach its target.

The Soviets knew that they had to extend the range and speed of ASW forces. This was to come in the form of new aircraft, ASW cruisers, and forward operating areas and bases.

The MOSKVA class ASW cruiser was the first dedicated ASW surface ship designed to counter the U.S. SSBN threat. The MOSKVA and her sister ship, LENINGRAD were built at the Nikolayev shipyard in the early 1960s, becoming operational in 1968. Although it is considered a "clunker" by many naval experts, its armament of ASW missile launchers, anti-aircraft, electronic counter measure packages, twin twelve-tube mortars, and Ka-25 HORMONE helicopters, is never the less impressive.

The Soviets formed the first large ASW task force. Although it has an impressive inventory of the MOSKVA, destroyers, other cruisers, and SSNs, the task force seemed incapable of meeting the strategic threat.

Several problems existed for the first generation of ASW cruisers. They were extremely vulnerable to air attack. The lack of adequate sea-based air cover, would confine the task force to operating within range of land-based aircraft, where air cover and density could be maintained. Advances

in the U.S. Polaris-Poseidon systems further highlighted the weaknesses in Soviet ASW. The addition of MIRVed warheads, that could be delivered more accurately from greater distances, made the U.S. submarines untouchable by most airborne ASW assets.

Thus, the Soviets were forced to invest more into their ASW fleet to counter the increased striking power and larger area of operations of U.S. SSBNs. The KIEV-class carrier, with its mixed complement of VTOL aircraft and helicopters, represented the latest solution to this critical problem. The principal mission of the KIEV class is ASW. It is a versatile design, however, and could also play a role in³⁴ limited air defense, amphibious support, and sea denial.

Many airborne ASW platforms were already available or introduced to help counter the SSBN. The Il-38 MAY and the Be-12 MAIL are the two principal aircraft. The Il-38 was introduced in 1969 and closely resembles the P-3 ORION. It is fitted with radar, magnetic anomaly detection (MAD) equipment, and sonobuoys. The MAY can be armed with ASW torpedoes, bombs, and depth charges. About 50 to 55 MAY aircraft operate over the Barents and Norwegian Seas, as well as the Northern Pacific. The Be-12 MAIL also has radar, MAD, sonobuoys and similar armament. It operates in all four fleets, with a total of about 80 aircraft. It is a very capable asset, holding many international records for³⁵ performance.

Before long, strategic ASW became an insurmountable

problem not only for the Soviets, but also for the United States. Both countries introduced submarine-launched ICBMs, and SSBNs on either side could reach the targets of its enemy from almost anywhere on the high seas, in effect neutralizing airborne ASW.

RECENT DEVELOPMENTS

A number of major developments within the last decade have increased the effectiveness of SNA. For the past few years, the numbers of assets has been increasing at about 50 aircraft per year, giving it a current strength of 1,610³⁶ planes.

The introduction of the Tu-22M BACKFIRE, in 1975, was a major addition to the capabilities of naval aviation. Since the start of deliveries, 50 percent of the BACKFIRES have gone to SNA.³⁷ With supersonic speed, range, and armament, it is a potent and versatile offensive threat for sea-denial and interdiction missions. Although it has not been deployed outside the U.S.S.R. to date, forward basing in other countries would threaten our most important sea lanes and naval forces.

The most recent, and possibly the most complex, development in SNA is the construction of a nuclear powered, Conventional-Take-of-and-Landing (CTOL) carrier with a displacement of 60,000 - 70,000 tons. The appearance of this type of aircraft carrier signals a change in naval air

policy and indicates a new direction in strategy and tactics. Although its political and military potential is immense, just how the Soviets will utilize this asset is uncertain and has caused much debate.

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21. Lovett p. 23; and Terent'yev and Obukhov p. 10.
22. Kipp p. 156; and Lavrent'yev p. 5.
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24. Ranft and Till pp. 90-91.
25. Mines accounted for 11.3 percent, MTBs for 7 percent, submarines for 5.7 percent and shore artillery for 3.5 percent.
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CHAPTER II

SEA-BASED AVIATION: ITS CHANGING CHARACTER

The picture of a huge conventional carrier in Jane's Defense Weekly struck a chord of excitement and anxiety among Western naval observers. Few developments in the past have had the effects as the construction of this large aircraft carrier possibly to be named the KREMLIN. Although the KIEV-class has given Soviets a limited sea-based, fixed-wing air capability for about a decade, the new carrier represents an apparent change in Soviet view regarding air power at sea.

This chapter discusses the background and evolution of the change in naval doctrine which has culminated in the construction of the new carrier. Evolution and change in military doctrine are considered as the rationale for these changes including command of the sea and fleet defense. Characteristics of the new carrier and its applications form the last segment of the chapter.

EVOLUTION IN DOCTRINE

From World War II until the introduction of the Kiev, the Soviets chose not to invest the assets needed to construct a fully capable conventional carrier. The Great Patriotic War all but destroyed the Soviet Union, leaving its military forces decimated and its national economy in shambles. Consequently, the Soviets had neither the

facilities nor the resources to construct aircraft carriers. More importantly, until about the late 1960s or early 1970s, the aircraft carrier's utility, cost-effectiveness, and vulnerability were suspect. Thus, a heated debate developed as to whether the Soviet Navy needed a large conventional carrier.

With the advent of missile and nuclear technology, a big question remained concerning the types of forces needed for fighting a war. Aircraft carriers were argued to be obsolete and ineffective in a nuclear war. Naval theorists and members of the government agreed that carriers were just too vulnerable to the new nuclear-tipped missiles. In short, the consensus was that the aircraft carrier was big, expensive, useless, and destined for extinction.

As Charles Petersen notes, however, this does not mean that all types of sea-based aviation were ruled out:

In the mid-1960s, these theorists began to point to vertical takeoff-and-landing aircraft as a means of augmenting the navy's strategic antisubmarine warfare capabilities and as a method to improve its marginal or nonexistent ability to perform some secondary missions, such as providing close air support to forces ashore.¹

Thus, the KIEV-class carrier entered service in the mid-1970s with a complement of VTOL capable FORGERS. Even though the decision had been made to construct the KIEV, the Soviets still balked at the idea of building a conventional carrier.²

The attacks on CTOL carriers, however, started to wane in the late 1960s. Soviet literature stopped describing the

aircraft carrier as obsolete and doomed for extinction, and offered positive historical appraisals of carriers in World War II:

During World War II, aviation and particularly carrier aviation played a role that was equal in importance to that played by submarines in combat operations... The use of carrier aviation practically eliminated from combat operations battles involving artillery-torpedo groupings of surface forces. They were replaced by carrier forces.³

The appearance of carrier aviation enabled a country to pose an air threat almost anywhere in the world. At the same time, groupings of surface forces, covered by carrier aviation, could operate within range of the enemy's shore-based aviation and along his shores. "Thus, aviation came in to being as an independent arm of forces, possessing great striking power and high maneuverability."⁴

By the mid 1970s, at the time the decision was made to build the CTOL carrier, Soviet literature reflected a change of position. The Soviet perception and definition of several naval concepts were changing, and in doing so, the conventional aircraft carrier began to take on a new and favorable light, one with a future.

RATIONALE FOR CHANGE

Convincing the party and military establishment that a conventional carrier was needed was no small feat for the Soviet Navy. Naval theorists probably sold the idea as necessary, if not critical, to the defense of the homeland. It was just too big of an investment to be treated as a mere

addition to "balance" the fleet or as another surface ship to participate in presence and persuasion. The cost of building and operating a carrier is staggering, dwarfing any other ship by comparison. It is important to remember that the party sets state policy before setting military policy. Consequently, politics dictates military doctrine, and military elements are designed to fit the state policy of the Communist Party of the Soviet Union.⁵

Many western observers conclude that the carrier is a logical follow-on to the existing aviation ASW cruisers. They state that the major role of this ship will be to directly support submarine forces by destroying enemy ASW forces, and indirectly by providing air defense for the fleet which also supports the submarine forces. Consequently, sea-based aviation is viewed as a support for the fleet while the fleet supports submarine operations. The possibility exists in this logic that the carrier will be incorporated into the Soviet military doctrine so that the inherent potential of a large-deck carrier will never be fully exploited. Rather, it will be fitted into expanded roles closely resembling those of the KIEV.

COMMAND OF THE SEA

Command of the sea is one of the oldest concepts in naval strategy, and without question, the Tsarist Navy adhered to the concept. But by the end of the 1920s the Soviet Navy abandoned any aspirations of seeking to control

the seas, in effect, limiting itself to a coastal defense.⁶

By the late 1930s, there is evidence that would indicate a revival of command of the sea. Powerful capital ships were being constructed and the fleet received new cruisers, destroyers, and long-range submarines indicating a goal of creating a high seas fleet capable of operations far from native bases.

Despite this revival, the Soviet Navy made a horrible showing in the Second World War, especially in surface warfare. At times, hardly any effort was put forth to contest the German Navy. The conservative use of large surface ships accounted for many lost opportunities to inflict heavy damage to the German Navy, even toward the end of the war, when the Soviets enjoyed a significant numerical advantage.

After the war, the Soviets once again started an ambitious ship-building program of heavy cruisers, long-range submarines, destroyers, and possibly aircraft carriers, indicating a continued acceptance of command of the sea. Stalin's death, in conjunction with advances in nuclear and missile technology, lead the Soviet Navy to turn away from command of the sea to the notion of sea-denial. Captain First Rank Yu. Bystrov explains:

With the appearance of nuclear weapons, and then of nuclear missiles, attention to sea supremacy abated and problems connected with it went into the background. It was believed that it would lose its meaning in the situation of a world nuclear war.⁷

In his January 1960 speech to the supreme Soviet, Khrushchev

stated that, "...surface ships can no longer play the role they played in the past." The result of this was a general shutdown of the military shipbuilding program.⁸

The orientation towards sea-denial was based on the narrowly defined tasks of providing homeland defense with the strategy of attacking U.S. carrier task forces, and later, SSBNs. This is reflected in warship construction at the time. Many ship designs emphasized heavy firepower and first strike capability while lacking speed, reload capability, range, and supportability, attributes unnecessary in a short war.⁹

By the early 1970s, command of the sea had been revived. Articles stressing the importance of the strategy in the Second World War and its current relevance began to appear in Soviet literature. In fact, Admiral Gorshkov devotes 4,000 words to a discussion of command of the sea in Seapower of the State. In this discussion, he highlighted its importance by stressing that only with such dominance could a fleet gain control of shipping, deploy its forces, and prevent the enemy from disrupting its operations. It appears the United States and the Soviets view command of the sea, fundamentally, in the same way. This is extremely important to sea-based aviation because the Soviets are now linking command of the air as integral before gaining command of the sea.¹⁰

FLEET DEFENSE

Soviet naval strategists have, for some time, realized the disadvantages of lacking a viable sea-based air capability. In the open sea, out of land-based aviation's protective reach, combat operations are unlikely to succeed without adequate fighter cover. The Soviets realize that without winning and holding air supremacy on an operational and tactical scale, it is impossible to count on success of¹¹ an action or an operation.

The Soviet reappraisal of fleet air defense also appears to be a factor in the carrier decision. In the 1960s, the Soviets placed a great deal of faith in the new missile and electronic technology. They held surface-to-air missiles (SAM) as a relatively cheap and effective air defense to the point where fighter aviation had "in considerable measure lost its importance in the [fleet] air defense system."¹²

By the 1970s, however, doubts began to surface about the effectiveness of SAMs. The advent of electronic countermeasures and other airborne defenses began to whittle away the notion of the SAM being a complete air defense. Petersen points out that "interest in antiaircraft guns, particularly small caliber guns, began to revive." Soon afterwards, came the express need for sea-based high performance aircraft to fill the air defense role. Forgers were unable to meet the need.

CARRIER CHARACTERISTICS

Predicting the carrier's characteristics and how the Soviets will use this new asset is a hazardous effort at best, and caution must be used to ensure that we are not "mirror imaging" the United States. By critically reading Soviet literature, one can attempt to formulate educated judgements concerning the carrier.

Jane's Defense Weekly, published three satellite photographs showing the Soviet Navy's first large-deck aircraft carrier. It is being constructed in two halves at Nikolayev Shipyard 444 and will probably displace between 60,000 - 70,000 tons.¹³ It is believed that the Soviets will name it KREMLIN.

Preliminary interpretation indicates the use of vertical silo-launched SAM missiles as part of the carrier's armament. Although this is not certain, it will probably be armed with antiaircraft guns and SSMs.

Western analysts estimate that the carrier will carry about 75 aircraft in total, assuming a preponderance of fixed-wing interceptor/attack aircraft, similar to U.S. carriers. However, a significant number of helicopters and V/STOL aircraft to carry out ASW missions will also be present.

Most western authorities, including Secretary of the Navy, John Lehman Jr., agree that the carrier's power plant will be nuclear or possibly a nuclear/diesel combination as

in the KIROV's case. Some observers, including Dr. Jacob Kipp, are not convinced of this. They point out that Nikolayev Shipyard has never produced a ship with a nuclear power plant and adding such a capability to this shipyard seems too radical a change. Additionally, a nuclear power plant could add three years to the construction time and increase the cost significantly, tempting the Soviets to make trade-offs -- range and prestige for cost and speed of construction. The answer will come when and if the Soviets put smoke stacks on the carrier.

APPLICATIONS

The carrier's introduction will provide the Soviet Navy its first sea-based aviation capable of offering a wide range of military capabilities. Considerations of future applications contain a speculative element and is limited by uncertainty, making any assessment tentative, but, this paper will attempt an informed judgement on the potential, but realistic military options by critically addressing Soviet literature.

How the Soviets plan to apply this asset is still subject to conjecture and debate, but, it is obvious that Soviet theorists realize its potential. Studying U.S. carriers' roles and missions, Yu. Nevskiy notes:

Their carrier-based aircraft are supposed to deliver strikes against targets at sea, on the seacoast and in the enemy's hinterland; to provide air cover and support for amphibious and ground forces operating in

maritime areas to seize and hold air supremacy in combat zones; to provide anti-aircraft defense for the ships of task forces, amphibious forces and large convoys during sea crossings; to blockade sea areas and straits; and to conduct aerial tactical reconnaissance.¹⁴

And Stalbo concludes that, "There is no basis for speaking of a reduction in the importance of carriers in armed warfare at sea. Moreover, we must speak of an increase in their role in military options."¹⁵ The most recent and important accolade, however, was published in a Red Star article written by Gorshkov. Although the article deals with U.S. aircraft carriers, he praises carriers as "a unique and universal system" and also states that the carrier is "the most versatile, mobile and maneuverable system, of great striking power, capable of carrying out the majority of all the naval missions, both in a nuclear war and in wars conducted with conventional weapons."¹⁶ Thus, the Soviets realize that they have a valuable asset, but, the question remains on how they will use it.

Politically, the carrier's ability to project power has proven itself to be the acme of peacetime presence and persuasion. Large, ominous, and potent, the carrier can demonstrate resolve and commitment by exerting tremendous pressure via the threat of military force. The United States has used carrier forces aggressively in the past as a foreign policy vehicle. The Soviets have also proven themselves in using their navy in foreign policy pursuits. The Kremlin will undoubtedly use its carrier to carry out

secondary missions of political persuasion and crisis management.

One can expect the new carrier to be assigned to either the Northern or Pacific fleets, and to conduct frequent port visits and other political operations. It will also augment a naval presence already established. The military potential of a large deck carrier will greatly enhance the effectiveness of the Soviet Navy's peacetime political missions.

DEFENSE OF THE HOMELAND

The KREMLIN's primary role will be related to defense of the homeland. This equates to strategic ASW and protection of their own SSBNs from enemy ASW forces. It will also play a crucial role in fleet air defense, protecting its surface combatants from enemy aircraft and, if their defense is sophisticated enough, cruise missiles. The carrier could also participate in number of different roles and missions depending on the scenario. In short, it can be a truly versatile combatant if the Soviets have the foresight to develop a strategy to use it effectively.

Strategic ASW has often been described as the primary defensive role of the Soviet Navy since the advent of the SSBN. The Soviets consider SSBNs as the worst and most unmanageable threat to its homeland. As Gorskov wrote:

"The imperialists are turning the world ocean into an extensive launching pad... of ballistic missiles, of submarines and carrier aviation trained on the Soviet Union and the countries of the Socialist community. And our navy must be capable of standing up to this real threat."17

The MOSKVA and KIEV demonstrate their resolve to come up with a solution for the problem. One can expect to find a sizeable complement of ASW helicopters and probably FORGERS to counter SSNs and SSBNs.

A lack of adequate sea-based fighter cover has been an Achilles heel to the Soviet Navy for decades. The carrier's air defense role may be just as important as its ASW role. RAM-Ks, RAM-Ls and FLOGGER Ds are all possible candidates for air superiority missions to protect the fleet's surface combatants from hostile aircraft and screening Soviet SSBNs from enemy ASW forces.

Soviet naval theorists also are impressed with secondary missions of large deck carriers. These include amphibious support, in which the carrier would provide air cover and close air support (CAS) in support of ground forces.

Historically, support to amphibious operations has been limited by aircraft range and geographic circumstances. The KREMLIN will enhance and expand Soviet amphibious landing potential by gaining air superiority over the landing area and by providing close air support to troops on the beach. This will only hold true, however, when the carrier can produce a stronger air density than opposing

air forces. With 14,000 naval infantry personnel 100 amphibious warfare craft (not including commercial ships that could augment the amphibious forces), and the Kremlin's aviation, the Soviet Union will possess a potent amphibious capability against Third World Nations, and possibly against some western nations.

18

SEA DENIAL

Destroying enemy naval forces and interdicting sea lanes are considered to be vital to the Soviet war effort. Traditionally, sea denial has been one of the Soviet Navy's main missions with land-based aviation and submarines bearing most of the responsibility. But, carrier aviation is ideal for the sea denial effort.

Although submarines and long-range bombers armed with antiship missiles are the principal antiship weapons, it is reasonable to assume that carrier-based fighters will be employed in a sea denial role. After all, Soviet naval theorists still appreciate the sinking rate established by land-based naval fighters during World War II.

19

Sea-based fighters can help penetrate battle group defenses by adding to the number of existing air defense targets. The mass of missiles, bomb and torpedoes from Soviet naval forces coming at roughly the same time from different altitudes and directions in an electronic warfare or nuclear environment, makes several direct hits seemingly inevitable.

Sea-based aviation will not only participate in penetrating enemy defenses, but will also provide air cover for long-range bombers. Naval land-based bombers still provide the most flexible antiship weapon, given its ability to cover great distances in a short period of time while carrying antiship missiles with a standoff range of 200-300 nautical miles. However, these bombers are extremely vulnerable to enemy interceptor aircraft, be it land- or sea-based, when coming within range of its targets. Fighter escorts would severely complicate US defenses against Soviet long-range bombers, including the use of land-based interceptors on Iceland and in the Far East to attrite Soviet bombers.

SIGNIFICANCE

The Soviets will gain a great deal of prestige with the KREMLIN's introduction. No longer will they be attributed as being a one-shot navy, or limited to defensive missions, such as sea denial. The carrier's introduction will make them a true oceanic navy capable of a substantial range of political and military options.

One can partially agree with those naval observers claiming that the KREMLIN is the KIEV's logical follow-on, but, it is more than that. True, one of its leading missions will probably be ASW, however, Soviet naval doctrine is changing to such a degree, that a true carrier

was required. The KREMLIN far exceeds what would reasonably be considered the follow-on of the KIEV.

The KREMLIN will no doubt play an important role in presence and persuasion, especially in those Third World nations incapable of countering such a threat.

Although the KREMLIN alone will not be a direct military threat to the U.S. Navy, it does create several problems. The U.S. Navy is already straining to maintain commitments in the Atlantic, Mediterranean, Indian Ocean, and Western Pacific. Many Western observers agree that U.S. naval forces could prevail in almost any military circumstance short of nuclear war. Even though the introduction of one Soviet carrier may not substantially alter the general balance of power; it initiates a dangerous trend. It is now estimated that five to eight carriers will be constructed by the turn of the century. Thus, the political and military implications will be of the greatest concern.

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CHAPTER III

LAND BASED AVIATION

The two primary weapons of the Soviet Navy, according to Admiral Gorshkov, are the submarine fleet and aviation. Although the Soviet submarine fleet is similar to that of the United States, Soviet Aviation is different in many aspects. Soviet Naval Aviation has traditionally emphasized Land Based Aviation (LBA) rather than Sea Based Aviation (SBA). LBA has received top priority because of the geo-strategic context of Soviet naval power. The four Soviet naval fleets are designed to operate within specific bodies of water. Within this framework, LBA is much more easily transferred from fleet to fleet than SBA.

The traditional role of the Soviet Navy has been to control the seas immediately surrounding the nation and protect the flanks of the Red Army and the nation from assault from the sea. Although construction of aircraft carriers had been agreed to prior to World War II, the USSR was unable to do so during that conflict. In the postwar years, LBA was considered capable of its primary mission and could provide the ability to rapidly deploy additional forces to any fleet. The initial missiles on the U.S. Polaris submarines had only a 1,200 mile range. Therefore, these vessels needed to operate close to the USSR. Deployment of 2,500 mile range submarine missiles in 1964 meant that U.S. submarines within an arc from Greenland to

Gibraltar and the entire Mediterranean could strike Moscow.¹ This led to the Soviet creation of a means to extend their anti-submarine operations farther from the USSR. The MOSKVA-class ASW helicopter cruisers deployed in 1967 were to meet this requirement by giving the Soviet Naval Aviation a seabased force. This force is faced by the same problems of deployment of other ships from one fleet to another, i.e., major choke points and the distances between fleets.

For these reasons, the vast majority of SNA assets remain land-based. In 1984, SNA was assigned a total of 1,085 combat aircraft and helicopters of which 855 or almost 79 percent were land based. If helicopters are excluded the percentage reaches 93.² While some of the aircraft entered the SNA inventory in 1955, -- specifically the Tu-16 BADGER -- the quality of assets has been significantly upgraded over the past decade.

Sovite Naval Aviation's missions as described by Scott and Scott included, but are not limited to:

- 1) Destruction of hostile surface forces or strike
- 2) Surveillance and reconnaissance
- 3) Anti-submarine warfare
- 4) Destruction of enemy ports
- 5) Mine laying
- 6) Support of amphibious operations³

The remainder of the chapter will discuss each of these missions followed by a discussion of LBA assets.

MISSIONS

Destruction of hostile ships, also referred to as strike, is one of LBA's major wartime missions. Armed with conventional and nuclear armed missiles as well as free-fall bombs, LBA will conduct strikes against enemy naval combatants. Prime targets will be U.S. carriers. "One of the tasks of long-range aviation is the destruction, together with naval aviation, of means of nuclear attacks at sea, especially aircraft carriers." ⁴ American carriers still represent a potent threat to the Soviets by virtue of their high-performance nuclear capable aircraft. The Soviets will commit its aircraft in conjunction with submarine attacks to achieve their objectives.

Interdiction of sea lanes is also part of LBA's strike role. Convoys will be a particularly inviting and necessary target in a major protracted war. Allowing men, equipment, and supplies to get through in any scenario would be a terrific mistake on the part of the Soviets. LBA has approximately 450 aircraft which could accomplish this mission in addition to Soviet Air Force assets which can assist.

Surveillance and Reconnaissance

As its title infers, this mission provides inputs into many other missions. Several western authors combine anti-

submarine warfare assets whose function is to conduct maritime surveillance into the general category of reconnaissance while others separate the two. Approximately 108 reconnaissance aircraft are assigned to all four Soviet fleets with the Northern and Baltic containing over sixty percent of these assets. These generally are long-range aircraft such as the Tu-95 BEAR and IL-38 MAY.

Antisubmarine Warfare (ASW)

The threat posed by U.S. ballistic missile submarines has made this a primary mission of SNA. In this, the sea based assets provide assistance but the bulk of the mission will fall on LBA. Included in this effort are several aircraft whose function is submarine detection. The difficult tasks of detecting, tracking and destroying submarines as Admiral Gorshkov has stated, "presents no small difficulty."⁵

In addition to fixed wing aircraft, helicopters play an important role in Soviet ASW, especially when equipped with dipping sonar, magnetic anomaly detection (MAD), electro-optical detectors and torpedoes.

The Soviets have expended a considerable amount of resources into their ASW effort. Despite this, their ability to effectively detect, locate, track and destroy, even in joint operations, seems fleeting at best. Unless radical improvements in Soviet ASW systems begin to appear,

U.S. submarine forces can operate with relative safety.

Soviet Naval Aviation currently has approximately 200 aircraft which serve in the ASW role in conjunction with over 255 helicopters.⁶ DoD sources place the total number of SNA assets for this mission at 450 with the vast majority⁷ land based.

Destruction of Ports

This mission obviously will be conducted by both Soviet Naval Aviation and the Soviet Air Force. Land-based naval assets are able to accomplish this function. Aircraft based in the Kola Peninsula have a maximum range of an arc stretching from Gibraltar to Labrador while LBA bombers in the Far East can reach the Philippine Sea and the Western Hawaiian Islands. The entire Mediterranean Sea can be reached from Naval Air Bases in the Crimea.

Mine Laying

Mine warfare has always played an important part in the outcome of any war at sea. Mines are relatively inexpensive to produce and have been successfully used in the past.

Although Soviet literature favors the submarine regarding this mission, their aircraft would also be employed, especially for quick reactions and replenishment of existing minefields. From 1939 to 1971 Soviet Naval Aviation did contain Mine-Torpedo Aviation. Although any aircraft that can carry a bomb can carry a mine, the

BACKFIRE with its inherent capabilities would be particularly effective at this mission.

Support of Amphibious Operations

In 1976, Soviet Naval Aviation was assigned FITTER ground support fighter-bombers. Beginning with fifteen of these aircraft the Baltic Fleet presently contains an air regiment of these land based fighters. Similar fighters have been assigned to the Pacific Fleet.⁸ The total inventory is seventy-five,⁹ all land based.

Armed with cannons and rockets these aircraft also are capable of carrying tactical missiles armed with conventional warheads which have a sixty nautical mile range.¹⁰ Such land-based aviation assets obviously have the mission of supporting Soviet Naval Infantry conducting amphibious assaults. Assignment of these units to the Baltic and Pacific Fleets greatly increases the amphibious assault capabilities of these fleets. The Pacific Fleet has the largest contingent of Soviet Naval Infantry, a full division.¹¹ While the Baltic Fleet is assigned only a brigade of Naval Infantry, Poland also has a naval infantry brigade and East Germany has a motorized rifle division trained extensively in amphibious operations. In addition to these fighters several land based SNA bombers are capable of providing support for amphibious assault landings.

LAND BASED AVIATION ASSETS

The purpose of this discussion is not to present a detailed description of each asset. Rather, it is an attempt to distinguish the various types and models of land based aviation and their primary missions.

Tu-16 BADGER

The BADGER has been in the Soviet Naval Aviation inventory since 1954.¹² As many as seven models of the turbojet medium bomber are used by SNA. Between seventy-five and eighty BADGER-As serve primarily as tankers although they do have a secondary role as bombers. Using free fall bombs, these aircraft would most probably provide support for amphibious assaults. The BADGER C and G models which entered service in 1960 and 1965 have the mission of anti-ship strikes and are armed with air to surface missiles with ranges from fifty to over four hundred nautical miles. An estimated eighty BADGER D,E,F, and J models are employed in electronic warfare and reconnaissance. The total 1984¹³ inventory of Tu-16s in SNA was 315.

Tu-22 BLINDER

The number of BLINDERS in SNA dropped from sixty in 1975 to thirty-five in 1984. Because these aircraft are equipped with only free fall bombs, some of them may support amphibious assaults. The BLINDER C is a maritime

reconnaissance model with six or seven cameras. Entering the SNA in 1963, this supersonic bomber has been reported to be less than successful.¹⁴

Tu-22M (Tu-26) BACKFIRE B

The SNA inventory of 100 BACKFIRE Bs will probably be increased as the older Tu-16s and Tu-22s are retired. The BACKFIRE entered SNA in 1976 and with its high speed (mach 2) and ability to carry either air to surface missiles or internal ordinance has greatly added to SNA capabilities. The BACKFIRE is equipped with Electronic Counter Measure (ECM) pods and can lay mines in addition to its anti-ship mission.¹⁵

Tu-95 BEAR D

The first BEAR entered SNA in 1955. By 1984, about ninety of these large turboprop BEAR Ds remained in the SNA inventory. With its long range (7,800 nm), it is used extensively for reconnaissance and anti-ship targeting. BEAR Ds carry no weapons and are present only in the Pacific and Northern Fleets. Notable is the fact that BEAR Ds and Cs of Strategic Aviation rather than SNA also have an anti-shipping mission.¹⁶

Tu-95 (Tu-142) BEAR F

Introduced in 1971, this version of the BEAR has the mission of maritime surveillance and ECM. The BEAR F

carries torpedoes, depth charges, mines or bombs in its weapons bay. In 1984, there were sixty of these in the SNA inventory.¹⁷

Su-20 FITTER C

FITTER Cs assigned to the Baltic and Pacific Fleet provide support of the Soviet Naval Infantry. With its 300 mile radius and the ability to carry surface to ground missiles, the Fitter does possess a limited anti-shipping capability.¹⁸

Il-38 MAY

This P-3 look-alike has a similar mission to the U.S. aircraft. Introduced to SNA in 1968, the MAY has a twelve hour endurance which enhances its use in maritime patrol and ASW. The fifty in service can carry bombs, mines, depth charges or torpedoes.

Be-12 MAIL

About ninety-five of these flying boats remain in LBA. The aircraft can carry bombs, mines, torpedoes, or depth charges.¹⁹ Its missions are primarily maritime patrol, ASW, and rescue.

Mi-8 HIP

This is land based utility helicopter. One of its roles is that of minesweeping, however, its major role is

transport of Soviet naval infantry troops.²⁰

Mi-14 HAZE

The HAZE is a land based ASW helicopter with 105 in service in 1984. It has an amphibious hull and can be equipped with a dipping sonar as well as depth charges and
21
torpedoes.

DISTRIBUTION

Because LBA has the flexibility to be rapidly shifted from fleet to fleet, exact numbers by type are not commonly available. Tables I reflects the distribution in 1977 by model. Table II depicts the 1984 distribution of all SNA by general type while Table III presents the 1984 inventory of LBA assets.

TABLE I

LBA Distribution of Major Aircraft by Model, 1977¹

	Northern	Baltic	Black Sea	Pacific	Total
Tu-16 C/G	85	60	60	85	290
Tu-16 D/F/G	25	50	20	40	135
Tu-22 C	10	10	25	15	60
Tu-22M (Tu-26)	15	0	15	0	30
Tu-95D(Tu-142)	40	0	0	20	60
Su-20	0	45	0	0	45
Il-38	30	0	10	15	55
Be-12	50	0	50	0	100
Total	255	165	180	175	775

¹Kipp, 1978, pp. 207-208

TABLE II

Distribution of all SNA by Type, 1983¹

	Northern	Baltic	Black Sea	Pacific	Total
Bombers	75	90	100	125	390
Recce/EW	60	15	15	60	150
ASW	70	20	25	80	195
Fighters	10	35	30	20	95
Tankers	15	20	15	25	75
Helicopters	85	40	115	90	330
Total	315	220	300	400	1,235

¹ Labayle-Couhat, 1985, p. 689.

TABLE III

Total LBA inventory by Mission and Aircraft¹

	North	Baltic	Black	Pacific	Total
Tactical					
Strike/Bomber					
Backfire	--	--	--	--	100
Badger	--	--	--	--	240
Blinder	--	--	--	--	35
Fighter-Bomber					
Fitter	--	--	--	--	75
Forger	--	--	--	--	60
Total	105	135	100	170	510

Tactical Support

Tankers					
Badger	--	--	--	--	75
Recce/EW					
Badger,					
Bear D					
Blinder					
Hormone B	--	--	--	--	170
Total	<u>85</u>	<u>40</u>	<u>35</u>	<u>85</u>	<u>245</u>
ASW					
Bear F	--	--	--	--	55
May	--	--	--	--	50
Mail	--	--	--	--	95
Hormone A	--	--	--	--	120
Haze A	--	--	--	--	95
Helix	--	--	--	--	40
Total	<u>150</u>	<u>50</u>	<u>105</u>	<u>150</u>	<u>455</u>
Utility					
Transport/Tng	100	45	185	70	400
Total Naval AC	<u>440</u>	<u>270</u>	<u>425</u>	<u>475</u>	<u>1,610</u>

1
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CHAPTER IV

CONCLUSIONS

The roles of sea- and land-based aviation are clearly changing. Sea-based aviation will enhance its present roles and missions, and acquire new ones with the introduction of a new CTOL carrier (KREMLIN) carrying high performance aircraft aboard. Land-based aviation is increasing its ability to threaten Western naval forces at greater distances by adding sophisticated aircraft and equipment to its inventory.

Although one can only speculate on how the Soviets will use the new carrier under construction, Soviet literature indicates that they are fully aware of its potential and importance as a versatile system of great striking power, capable of carrying out a variety of naval missions in both war and peacetime. Sea-based aviation will have a number of new roles and missions that heretofore it was incapable of performing.

One of the carrier's primary missions will be the defense of the homeland. This equates to strategic ASW and the protection of its own SSBNs. Other primary missions will include strike and fleet air defense. The carrier will also play an important role in secondary missions associated with a large deck carrier, e.g., amphibious support, air cover for bombers, naval blockades, tactical reconnaissance, protection of sea lanes, and naval presence and persuasion.

The KREMLIN will displace between 60,000 - 70,000 tons,

be heavily armed, and will probably not be nuclear powered. It will carry a wide range of aircraft to include high-performance fighters, and a significant number of V/STOL aircraft and ASW helicopters.

Though sea-based aviation is going through a number of radical changes, land-based aviation is still, and will continue to be, the mainstay of Soviet Naval Aviation and the primary threat to Western naval forces. The geographical circumstances of Soviet naval power make land-based aviation much more efficient and flexible. The locations of naval air bases allow LBA to cover large portions of the North Atlantic Ocean, Mediterranean Sea, and Western Pacific Ocean. If based in occupied or allied countries such as Vietnam, Cuba, or Nicaragua, it could seriously jeopardize the United States' most important sea lanes.

LBA's roles are being enhanced and its capabilities are being increased steadily by the addition of sophisticated aircraft and armament. The addition of the BACKFIRE added backbone to the LBA inventory. The BACKFIRE has radically improved LBA's ability to fulfill its associated missions, especially in its strike related missions. Its long range and supersonic speed, combined with cruise missiles make it a potent and versatile weapon capable of interdicting sea- and land-based Western naval targets.

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